"Mutation in the enzymatic equipment of Escherichia coli and Proteus OX 19 directed by desoxyribonucleic acid isolated from bacteria of the same and of different species."

Dianzini, M.U. (1950) Experientia, 6: 332

This paper refers to "transformations" of E. coli and of Proteus with respect to carbohydrate utilization patterns. Very few details are given, but this paper leaves the impression that changes had been induced in the fermentative patterns of the treated cultures. This was of special interest to the undersigned, as fermentation markers are of some importance in genetic recombination studies. Dr. Dianzini was especially kind to discuss some details, and to send some of his cultures.

A parallel paper, "Mutazioni indotte dagli acidi nucleinic batterici", Bolletino Istituto Sierateraperutico Milan, 29: 161-172, gives further details. The cultures were studied manometrically, but unfortunately the bacteria were harvested from plain agar, so that enzymatic adaptation to the different carbohydrate substrates was not considered. The experimental QO_2 values therefore refer to the residual "constitutive" activity. Dianzini refers to the adaptation of control cultures to sucrose by growth on this substrate, so that it is not entirely clear how stable his characters are in the absence of DNA treatment.

Of the cultures sent by Dianzini, one was reported to be an induced sucrose-oxidiser. In fermentation tests it was indistinguishable from the culture from which it was stated to have originated, and quite different from the sucrose-positive transforming culture.

It is to be hoped that these studies will be continued, as they are obviously quite important. However, whatever the characters are which Dianzini has transformed, they do not appear to deal with the fermentative markers used in genetic recombination studies in E. coli.--J. Lederberg, Department of Genetics, University of Wisconsin, Madison, Wisconsin.

TECHNIQUE

We have developed a modification of classical layering procedures that has proved useful and convenient in many instances. The method is applicable whenever it is desired to add something, such as a growth factor, to solid medium having micro- or macrocolonies of bacteria on the surface. (Layering, under these conditions, is impracticable because it disturbs the colonies.) After having tried injection of the supplement into the agar, and the use of pennicylinders, we arrived at a much simpler and more reliable trick. The entire circle of agar is simply lifted out of the plate, bacteria up, with a sterile spatula, and is deposited, bacteria up, on the surface of another agar plate containing